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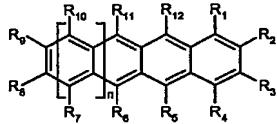
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(54) Title: IMPROVEMENTS IN AND RELATING TO ORGANIC SEMICONDUCTING LAYERS



(A)

(57) Abstract: An organic semiconducting layer formulation, which comprises: an organic binder which has a permittivity, ϵ , at 1,000 Hz of 3.3 or less; and a polyacene compound of Formula: A: wherein: each of R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} and R_{12} , which may be the same or different, independently represents hydrogen; an optionally substituted C_1 - C_{40} carbonyl or hydrocarbonyl group; an optionally substituted C_1 - C_{40} alkoxy group; an optionally substituted C_6 - C_{40} aryloxy group; an optionally substituted C_7 - C_{40} alkylaryloxy group; an optionally substituted C_2 - C_{40} alkoxycarbonyl group; an optionally substituted C_7 - C_{40} aryloxycarbonyl group; a cyano group (-CN); a carbamoyl group (-C(=O)NH₂); a haloformyl group (-C(=O)-X, wherein X represents a halogen atom); a formyl group (-C(=O)-H); an isocyano group; an isocyanate group; a thiocyanate group or a thioisocyanate group; an optionally substituted amino group; a hydroxy group; a nitro group; a CF₃ group; a halo group (Cl, Br, F); or an optionally substituted silyl group; and wherein independently each pair of R_2 and R_3 and/or R_8 and R_9 , may be cross-bridged to form a C_4 - C_{40} saturated or unsaturated ring, which saturated or unsaturated ring may be intervened by an oxygen atom, a sulphur atom or a group shown by formula -N(R_a)- (wherein R_a is a hydrogen atom or an optionally substituted hydrocarbon group), or may optionally be substituted; and wherein one or more of the carbon atoms of the polyacene skeleton may optionally be substituted by a heteroatom selected from N, P, As, O, S, Se and Te; and wherein independently any two or more of the substituents R_1 - R_{12} which are located on adjacent ring positions of the polyacene may, together, optionally constitute a further C_4 - C_{40} saturated or unsaturated ring optionally interrupted by O, S or -N(R_a) where R_a is as defined above) or an aromatic ring system, fused to the polyacene; and wherein n is 0, 1, 2, 3 or 4, also claimed is an electronic device, particularly an organic field effect transistor comprising the organic semiconductor layer formulation.

WO 2005/055248 A2



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